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From the author

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List of the Crustacea collected by J. A. McNeil in Central America. By SIDNEY I. SMITH.

BRACHYURA.

MAIOIDEA.

*Leptopodia debilis*, sp. nov. Male. Carapax naked, or minutely pubescent, and smooth; the branchial regions swollen. Rostrum about twice as long as the posterior portion of the carapax, slender, cylindrical, armed with a row of spines on each side, and sparsely

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hairy toward the extremity. A strong spine on the basal segment of the antenna and a similar spine on each side just behind the orbit. Chelipeds equal, slender, reaching nearly to the distal extremity of the carpus of the first ambulatory legs; ischium with a few small spines on the inner side; merus not quite as long as the hand, cylindrical, armed with several spines along the sides, and with three stout ones on the inner side at the articulation of the carpus; carpus with two or three small spines on the outer side, and two at the distal extremity on the inner side; basal portion of the hand cylindrical and smooth, but thickly covered with a minute pubescence; fingers nearly as long as the basal portion of the hand, sparsely hairy, slender, nearly straight horizontally but curved inward laterally at the tips, slightly channelled longitudinally, the prehensile edges approximate, toothed toward the base, and serrate toward the extremity, the serrations of the dactylus fitting accurately those of the propodus. Ambulatory legs slender, cylindrical, and slightly pubescent; meral segments armed with scattered spines, most of which are on the distal two-thirds of the length; carpi with two or three spines about the middle, and four at the distal extremity; propodi armed with small, scattered spines and spinules; dactyli beset with numerous spinules. First segment of the abdomen nearly as long as broad; second broader and very short; third broadest of all the segments, the lateral margins projecting into angles next the second segment and rapidly converging toward the fourth, which narrows very rapidly to the fifth; fifth segment twice as broad as long, the lateral margins at first converging rapidly and then only slightly as they approach the sixth; terminal article, which is composed of the sixth and seventh segments completely anchylosed, about twice as long as broad, the extremity angular but with the point rounded. Length of carapax, including rostrum, 29.5mm; length of rostrum from tip to the posterior side of orbit, 19.0; breadth of carapax, 9.9. Length of cheliped, 34.0; hand, 14.8; dactylus, 7.0. Length of first ambulatory legs, 72.4—74.2; second, 71.3—74.2; third, 58.0; fourth, 50.5. A single specimen from the Bay of Realejo.

There are specimens of this species in the Museum of Yale College, collected at Panama and the Pearl Islands, by Prof. F. H. Bradley, and among these, are females which agree pretty well with the figure of Edwards' and Lucas' *L. sagittaria* from Valparaiso. *L. debilis*, however, differs from the figures of the typical Atlantic *sagittaria* in the much shorter chelipeds with proportionately much longer fingers, and in the form of the male abdomen, which is very different from the figure of the Atlantic *L. sagittaria* given by Edwards in the Règne animal de Cuvier, and quite like the figure of the Valparaiso species given by Edwards and Lucas.

## CANCROIDEA.

*Pancpeus validus* Smith, Proc. Boston Soc. Nat. Hist., vol. xii, p. 278, 1869. A single specimen collected in the Gulf of Fonseca.

*Panopeus transversus* Stimp., Annals Lyc. Nat. Hist., N. Y., vol. vii, p. 210, 1860. One specimen from Corinto, west coast of Nicaragua.

*Ozius integer*, sp. nov. Male. Carapax broad, strongly convex in front but flattened in the middle and posteriorly; anterior portion of the mesogastric lobe narrow and bordered by deep sulci which fade out before they reach the middle of the carapax; anterior portions of the cervical sulci longitudinal, nearly parallel to the median sulci, and fading out at the same distance from the front; mesobranchial lobe indistinctly circumscribed. Surface of the anterior portion of the carapax, and along the margins even back of the lateral angles, rugose and filled with deep pits as if eroded; median and posterior regions smooth or minutely granulous. Front deflexed and transversely channelled, nearly straight as seen from above, but, in a front view, deeply undulated, with two median teeth, or lobes, which are prominent, but obtusely rounded. Antero-lateral border with a continuous, slightly upturned margin, not toothed or lobed, but with slightly marked elevations in the margin in place of the posterior teeth. Postero-lateral border rounded and with a very slight tooth just back of the lateral angle. Infralateral regions naked and granulous. External maxillipeds nearly naked, the meral segments granulous and longitudinally bisulcate. Chelipeds unequal; meral segments short, not projecting beyond the carapax; carpal segments unarmed, outer surface evenly rounded, but somewhat roughened as if eroded; hands rounded, the upper and outer surfaces roughened like the carpi, but in a much greater degree; fingers of the larger hand widely gaping, nearly cylindrical, with a few, low, obtuse teeth within; fingers of the smaller hand slightly channelled longitudinally and their prehensile edges closely approximating. Ambulatory legs slightly granulous and naked, except the propodi, which are a little pubescent toward the distal extremities, and the dactyli, which are stout, cylindrical, and completely covered, except the horny tips, with a short and very dense pubescence. The abdomen is broadest at the third segment, which projects in an angle on each side between the bases of the third and fourth ambulatory legs; from the third segment, it tapers regularly to the middle of the sixth, which is nearly as long as broad, with the lateral edges concave; the terminal segment is broader than long and has the extremity rounded. Length of carapax, 15.0mm; breadth of carapax, 23.5; ratio of length to breadth; 1: 1.57.

A specimen collected at Aspinwall.



*Eriphia squamata* Stimp., Annals Lyc. Nat. Hist., N. Y., vol. vii, p. 56, 1859, and p. 217, 1860. Collected at Corinto, Nicaragua.

*Arenæus bidens*, sp. nov. Male. Carapax granulous and naked above, except between the teeth of the antero-lateral margin and along the postero-lateral margin, where it is pubescent; gastric region and the posterior part of the branchial, more convex than in *A. cribrarius*. Front with two prominent, slender, obtuse, median teeth separated from each other by a deep and narrow sinus, and from the inner angles of the orbits, by broad rounded sinuses. Orbit broken above by two fissures, which are deeper than in *A. cribrarius*, and the truncated tooth between them more slender. Teeth of the antero-lateral border long and subcylindrical, the anterior ones obtuse, and the posterior ones acutely pointed; the one next the lateral spine hooked forward at the tip, and longer than the one in front of it; the lateral spine slender, nearly straight, and almost or quite as long as the space occupied by the four teeth in front of it. Infero-lateral regions clothed with a long and dense pubescence. External maxillipeds, chelipeds, and ambulatory legs very much as in *A. cribrarius*; the hands, however, are a little stouter, the teeth on the prehensile edges of the fingers more slender and acute, and the spine on the outside of the carpus is almost obsolete. Sternum flat posteriorly, and the whole surface naked, minutely granulous, and sparsely punctate. Terminal segment of the abdomen long and narrow, being twice as long as broad, the extremity slender and acute. First pair of abdominal appendages slender, reaching to the tip of the abdomen, curving inward near the base, then gently outward to beyond the middle, and then inward again to near the very slender tips, which are straight.

The female differs very little from the male, but is somewhat thicker and more convex, and the abdomen is broadly triangular as in *A. cribrarius*.

In coloration, alcoholic specimens resemble *A. cribrarius*, but the reticulations seem to be finer and more irregular.

Several specimens give the following measurements:—

Sex.	Length of Carapax including frontal teeth.	Breadth of Carapax including lateral spines.	Ratio of length to breadth.	Length of lateral spine.
	mm.	mm.	<del>mm.</del>	mm.
Male	24.4	60.0	1: 2.09	9.8
Male	19.3	48.0	1: 2.48	7.0
Male	15.9	41.4	1: 2.60	
Female	15.3	38.3	1: 2.50	

Collected at Corinto, Nicaragua, in June and July, 1868.



*A. cribrarius* of the east coast, heretofore the only known species of the genus, is at once distinguished from this species by the quadridentate front, the much broader and stouter teeth of the anterolateral border, and by the much <sup>less</sup> more slender terminal segment of the male abdomen.

*Callinectes*, sp. A single young specimen of *Callinectes* collected in the Gulf of Fonseca, agrees very well with Ordway's description of *C. arcuatus*, Boston Journal Nat. Hist., vol. vii, p. 578, 1863, except there is only one distinct spine on the carpus of the chelipeds, the inner ones being nearly obsolete. It may be an undescribed species, but the specimen is too young for accurate determination.

#### OCYPODOIDEA.

*Ocypoda Gaudichaudii* Edwards and Lucas, Voy. de d'Orbigny dans l'Amér. mérid., Crust., p. 26, pl. 11, fig. 4, 1843. Collected in the Gulf of Fonseca.

*Gelasimus heterophthalmus* Smith, Trans. Conn. Acad., vol. ii, p. 116, pl. 2, fig. 6, pl. 3, fig. 1, 1870. Gulf of Fonseca.

*Gelasimus heteropleurus* Smith, loc. cit., p. 118, pl. 2, fig. 7, pl. 3, fig. 2. Gulf of Fonseca.

*Gelasimus princeps* Smith, loc. cit., p. 120, pl. 2, fig. 10, pl. 3, fig. 3. Corinto, Nicaragua.

*Gelasimus armatus* Smith, loc. cit., p. 123, pl. 2, fig. 5, pl. 3, fig. 4. Gulf of Fonseca.

*Gelasimus ornatus* Smith, loc. cit., p. 125, pl. 2, fig. 9, pl. 3, fig. 5. The locality from which this species came is uncertain.

*Gelasimus gibbosus* Smith, loc. cit., p. 140, pl. 2, fig. 11, pl. 4, fig. 8. Gulf of Fonseca.

*Gecarcinus quadratus* Sauss., Revue et Magazine de Zool., 2e. sér., tome v, 1853, p. 360, pl. 12, fig. 2; Stimp., Ann. Lyc. Nat. Hist., N. Y., vol. vii, p. 233, 1860. Collected at Corinto, Nicaragua.

*Cardiosoma crassum* Smith, Trans. Conn. Acad., vol. ii, p. 144, pl. 5, fig. 5, 1870. Gulf of Fonseca.

(?) *Goniopsis cruentatus* DeHaan. There are two specimens of *Goniopsis* from the Gulf of Fonseca, which are apparently identical with the Atlantic species, but I have had no opportunity for a careful comparison of males from the two coasts, and therefore do not feel quite certain of the identity of the west coast specimens.

*Pachygrapsus transversus* Gibbes, Proc. Amer. Assoc. Adv. Sci., 3d meeting, 1850, p. 181; Stimp., Ann. Lyc. Nat. Hist., N. Y., vol. vii, p. 64, 1859. One specimen from the Gulf of Fonseca, which I am unable to distinguish from specimens from the east coast. There are specimens of the same species in the Museum of Yale College, collected at

Panama, and several other points on the Pacific coast, by Prof. F. H. Bradley.

*Sesarma sulcata* Smith, Trans. Conn. Acad., vol. ii, p. 156. Corinto, Nicaragua.

(?) *Aratus Pisoni* Edwards, Ann. des Sci. nat., 3me sér., 1853, tome xx, p. 187; *Sesarma Pisoni* Edw., Hist. nat. des Crust., tome ii, p. 76, pl. 19, figs. 4, 5. A specimen from Corinto, Nicaragua, appears to belong to this species, but it has not been carefully compared with east coast specimens.

#### LEUCOSOIDEA.

*Leucosilia Jurinii* Bell, Trans. Linn. Soc., vol. xxi, p. 295, pl. 32, fig. 1, 1855. Corinto and Bay of Realejo.

#### ANOMOURA.

##### DROMIDEA.

*Hypoconcha Panamensis* Smith, Amer. Naturalist, vol. iii, p. 249, 1869. A large specimen from the Bay of Realejo.

#### PORCELLANIDEA.

*Ptrollisthes armatus* Stimp., Ann. Lyc. Nat. Hist., N. Y., vol. vii, p. 73, 1859. Gulf of Fonseca.

#### PAGURIDEA.

*Clibanarius Panamensis* Stimp., Ann. Lyc. Nat. Hist., N. Y., vol. vii, p. 84, 1859. Gulf of Fonseca.

#### MACROURA.

##### THALASSINIDEA.

*Gebia spinigera*, sp. nov. Female. Median tooth of the rostrum broad, triangular; lateral teeth, slender, spiniform, separated from the median by deep sulci, which extend back nearly to the cervical suture and leave, along the sides, sharp, narrow ridges armed with a single line of spinules; dorsal surface of the rostrum. two-thirds of the way to the cervical suture, except a short median sulcus near the tip, armed with sharp spines, which decrease in size posteriorly and of which two at the tip are somewhat larger than the rest, and all give rise to numerous short hairs. A slender spine on the anterior border opposite the eye and just below the lateral spine of the rostrum; cervical suture marked by a deep sulcus which is bordered posteriorly, along the side of the carapax, by a slight ridge armed with two or three short spines on the hepatic region; cardiac and branchial regions smooth and naked. Chelipeds equal; ischium and merus



smooth and naked, except a line of hairs along the lower edge; a single slender spine on the lower side of the ischium, and, on the merus, several very small ones in the same position, and a large acute one on the upper side a little way from the distal extremity; carpus short, a slight longitudinal sulcus on the outer surface, inner margin denticulate and pubescent, with a small proximal and a large distal spine, both directed forward, spines on the distal extremity at the outer and inferior angles, and another on the inner side; basal portion of the propodus stout, subcylindrical, with longitudinal lines of granules on the upper side, which give rise to hairs, and a slightly oblique, narrow line of dense pubescence along the lower side; propodus but little shorter than the dactylus, nearly straight, tapering to a slender point, smooth, naked, and the prehensile edge armed, near the base, with two or three, small, obtuse teeth; dactylus clothed with long lines of pubescence and the prehensile edge armed with an obtuse tooth near the base, and, near the tip, with a large slender one which shuts just by the tip of the propodus; beyond this tooth the extremity extends in a conical, horny tip about as long as the tooth. Second thoracic legs ciliated along the inferior edge of the meri, and along both edges of the propodi and dactyli; merus compressed and armed with a slender proximal spine on the inferior edge and a similar distal one on the upper edge; carpus unarmed, but slightly ciliated within; propodus broad and compressed; dactylus short, triangular. Third thoracic legs with a small spine above the genital orifice, a slight one on the inferior edge of the ischium, and several on the inferior edge of the merus; dactylus, propodus, and distal portion of the carpus ciliated on the outer side and the inner edges; dactylus narrow and about as long as the propodus. Fourth thoracic legs armed with a row of spines along the inferior edge of the merus; the three last segments much as in the third pair of legs. Fifth thoracic legs slender, subcylindrical; propodus thickly ciliated on the anterior side; dactylus slender and very short. Abdomen ciliated along the edges of the third, fourth, and fifth segments, but smooth and naked, above. Appendages of the sixth segment with a spine above at the articulation of each lamella; lamellæ smooth and carinated above, the extremity of the outer one slightly arcuate, that of the inner truncate, but slightly rounded at the inner angle. Terminal segment quadrilateral, broader than long, the dorsal surface smooth and naked, with slight lateral carinations and a median sulcus. Length of specimen, from tip of rostrum to extremity of abdomen 4.10<sup>mm</sup>. Length of carapax along the dorsal surface, 13.0. Length of hand, 9.5.

A large number of specimens, all females, collected at the Island of Aseredoras, twenty miles northwest of Corinto, Nicaragua, March 14th, and a few from the Gulf of Fonseca, May, 1869.

## CARIDEA.

*Atya rivalis*, sp. nov. Male. Carapax compressed, naked, and entirely smooth, except the gastric region which is punctate with shallow puncta. Rostrum short, median carina sharp, high, extending to the acutely triangular tip and separated from the lateral carinæ by deep sulci; lateral teeth right-angled, but not acute. Peduncle of the antennula armed above with small spines; inner flagellum shorter than the carapax, but much longer than the outer. Antennal scale considerably longer than the peduncle, narrow, ovate at the tip, the outer margin straight and armed with a very slender spine; flagellum longer than the carapax. Legs of the first and second pairs equal in size, smooth and naked, except the tips of the fingers; meral segments compressed and longitudinally sulcate. Legs of the third pair much stouter than the others and the meral, carpal, and propodal segments thickly beset with small squamiform tubercles; propodus a little longer than the carpus; dactylus short, unguiform, the basal portion slightly thickened and armed beneath with several minute spines. Legs of the fourth pair much more slender and not so strongly tuberculate, but the carpus armed with one, and the merus with two or three spines beneath. Legs of the fifth pair still more slender, the propodus proportionately longer, and the merus and carpus spined beneath as in the fourth pair. Abdomen smooth and naked; lateral margins of the second, third, fourth, and fifth segments truncate. Lamellæ of the appendages of the sixth segment evenly rounded at their extremities and projecting only slightly beyond the terminal segment. Terminal segment narrow, the sides straight and converging regularly to the truncate extremity, which is ciliated and armed with minute spines; dorsal surface with a slight median sulcus with lines of small aculei each side. Length from tip of rostrum to extremity of abdomen, 40.6<sup>mm</sup>. Length of carapax, from orbit to middle of posterior margin, 13.2; from tip of rostrum to middle of posterior margin, 15.6; breadth of carapax, 6.8; height of carapax, 8.4. Third thoracic legs, entire length, 27.5; merus 9.0; carpus, 3.6; propodus, 3.4; dactylus, 1.3.

Fresh water streams, Polvon, Occidental Department, Nicaragua. Six specimens.

*Atya tenella*, sp. nov. Male. Carapax compressed, narrowed in front, entirely naked, and smooth, or slightly punctate on the gastric region. Rostrum longer than in the last species; terminal portion acute, somewhat deflexed, and with a sharp carina both above and below; lateral teeth obtusely rounded. Peduncle of the antennula unarmed, except a few weak, bristle-like spines at the articulation



just in front of the eye; inner flagellum about as long as the carapax, outer much shorter. Antennal scale regularly ovate at tip; flagellum much longer than the carapax. Legs of the first and second pair very much as in the last species. Remaining thoracic legs slender, decreasing successively in size posteriorly, those of the third pair not very much stouter than those of the fourth; all nearly naked and very slightly spinulose, the meral and carpal segments in the fourth and fifth pair armed beneath as in *A. rivalis*, and the dactyli as in that species. Abdomen similar to that of *A. rivalis*, but the lamellæ of the appendages of the sixth segment are rather longer in proportion, and the terminal segment is rounded instead of truncate at the extremity. Length from tip of rostrum to extremity of abdomen, 62.0mm. Length of carapax, from orbit to middle of posterior border, 18.2; length, including rostrum, 22.8; breadth of carapax, 11.8; height of carapax, 14.8.

Six specimens from the same locality as the last species.

*Evatya*, gen. nov. Allied to *Atya*, but the body stout, not compressed; rostrum prominent, carinate, and armed above with stout spines; anterior portions of the carapax with numerous scattered spines and spiny carinations; a spine on each side above the eye and three on the anterior border at the base of the antenna. Thoracic legs of the third pair very stout and tuberculate; the basis completely anchylosed with the coxa, and the ischium so firmly united to the merus as to admit of no motion between them; the propodus very much shorter than the carpus; the dactylus short, unguiform, and so closely united with the propodus as to admit of no motion, or only the very slightest, at the articulation with it.

*Evatya crassa*, sp. nov. Male and Female. Carapax stout, about as broad as high, and with broad emarginations in the lateral margins above the bases of the legs of the third pair. Rostrum as long as the antennal scale, slightly curved downward, broad at base, and tapering to an acute point; a broad carina above armed with six to eight stout spines, about half of which are on the carapax back of the base of the rostrum. Anterior half of the median portion of the carapax armed with small spines which decrease in size posteriorly; two vertical spines on each side at the base of the rostrum, the anterior one, just over the eye, very large and stout, the other smaller and directly behind the first; a stout antennal spine directed upward, and, just below it, two smaller spines in the margin; from the antennal spine, a carina, somewhat broken in the middle and armed with a single line of small spines, extends backward nearly to the cervical suture; just above this, but more posteriorly, is a smaller broken line of spines, which is connected with the spines on each side of the base of the rostrum by a little group of several spines somewhat isolated

from the rest; posterior and lateral portions of the carapax coarsely punctate and unarmed. Peduncle of the antennula armed above with small spines; inner flagellum stout, nearly as long as the carapax; outer flagellum much less stout and not more than half as long as the inner. Peduncle of the antenna smooth and unarmed; antennal scale reaching a little beyond the peduncle, the outer margin thickened, concave in outline, and armed with a very strong spine; flagellum very stout and nearly twice as long as the carapax. Legs of the first and second pairs about equal in size and very similar to those of the species of *Atya* just described, but all the segments more or less hairy. Legs of the third pair greatly developed, even in the very young, the two when placed together, side by side, being thicker than the carapax; basis and ischium tuberculose and hairy beneath; merus long and very stout, rounded without and flattened on the inner side, the whole outer surface thickly beset with prominent, squamiform tubercles, which show a tendency to an arrangement in longitudinal lines, most of the tubercles giving rise at their bases to little tufts of pubescence, the flattened inner surface unarmed, but densely hairy along the lower edge; carpus nearly as broad as long, the upper surface tuberculose like the merus, but the tubercles rather larger and more crowded together, the inner and under surface densely hairy; propodus very short, being broader than long, the outer surface with close set, large tubercles like those on the distal end of the propodus, the inner and under surface densely hairy; dactylus forming a stout, cylindrical, horny claw, longer than the propodus, and curved strongly downward. Legs of the fourth pair very much more slender, not reaching, by considerable, the distal extremity of the merus of the third pair, hairy along the inner side, and thickly beset with small squamiform tubercles, which increase in prominence distally and become slender spines at the extremity of the propodus; propodus cylindrical and longer than the carpus; dactylus small, composed of a thickened basal portion and a slender terminal claw, and unarmed except a few minute spines on the under side of the basal portion. Legs of the fifth pair like those of the fourth, but smaller, and the propodi proportionately longer. Dorsal surface of the abdomen evenly convex, naked, and closely punctate; first and second segments with a strong lateral, submarginal carina, which is specially prominent on the lateral expansions of the second; third to sixth segment with the posterior lateral angles produced into conical points or spines. Appendages of the sixth segment with a stout spine above the articulation of each lamella; lamellæ very broad and slightly pubescent above. Terminal segment, at base, nearly as broad as long, and tapering rapidly to a truncate and spined extremity; upper surface with a median sulcus toward the extremity, armed, on either side,



with a line of four or five aculei. Length of a male from tip of rostrum to extremity of abdomen, 141<sup>mm</sup>. Length of carapax from orbit to middle of posterior border, 60.8; height of carapax, 29.5. Length of rostrum, 16.4. Third thoracic legs, entire length, about 80; merus, 42; carpus, 20; propodus, 7; dactylus, 10.

Young, less than 30 <sup>mm</sup>. in length, do not differ from the large specimens, except in having the third pair of thoracic legs a very little less robust, and the spines of the carapax, etc., slightly less developed.

Fresh water streams, Polvon, and the "Rio Fulva, two and a half miles northwest of Realejo;" both localities in the Occidental Department of Nicaragua.

*Leander gracilis*, sp. nov. Female. Rostrum very long, strongly curved upward in the middle of its course, and the terminal portion very slender; the upper edge armed with eight or nine teeth, of which six or seven are on the basal half and the others near the tip, and the under edge with nine or ten small teeth, which decrease in size anteriorly and become very minute near the tip. Outer flagellum of the antennula slender and much longer than the entire body; inner flagellum only slightly shorter. Flagellum of the antenna slender and fully twice as long as the rest of the animal. First thoracic legs reaching nearly or quite to the tips of the antennal scales, very slender, and naked, except a few hairs on the fingers. Legs of the second pair reaching to the tip of the rostrum, very slender and nearly naked; hand, about three-fifths as long as the carpus, cylindrical, very slender and delicate, the fingers nearly as long as the palmary portion. Abdomen rounded and smooth above, the lateral portions of the first three segments with shallow vertical sulci, sixth segment compressed laterally and about twice as long as the fifth. Lamellæ of the sixth segment very narrow, the extremities ovate, the inner ones extending slightly beyond the tip of the abdomen, the outer ones much longer. Terminal segment narrow and tapering regularly to a very slender and acute point. A specimen with eggs beneath the abdomen gives the following measurements: Length of body from tip of rostrum to extremity of abdomen, 43.2<sup>mm</sup>. Length of carapax from orbit to middle of posterior margin, 7.5; length of rostrum from tip to base of eyes, 11.7; length of basal scale of antenna, 7.9; length of first thoracic legs, 12.6; length of second thoracic legs, 17.0; merus, 3.5; carpus, 5.6; hand, 3.3; dactylus, 1.5.

"Estero at Realejo," west coast of Nicaragua.

*Palæmon Jamaicensis* Olivier, Edwards, Hist. nat. des Crust., tome ii, p. 398; Martens, Wieg. Archiv xxxv, 1869, p. 22. A large number of specimens from Polvon, Occidental Department of Nicaragua, agree with the descriptions of this species and with a Brazilian specimen. In several of the very large specimens the legs

of the second thoracic pair are somewhat unequal, but in all of them the fingers are nearly as long as the palmary portion of the hand, thus differing from the *P. brachydactylus* of Wiegmann.

*Palæmon tenellus*, sp. nov. Male. Rostrum very long, reaching far in advance of the tips of the antennal scales, the basal half high, curved somewhat downward, then beyond the middle curved strongly upward, and tapering to a slender extremity; the upper edge armed with eight to ten teeth, of which seven or eight are on the basal half and the others near the tip, and the under edge with six or seven teeth. Second thoracic legs slender and nearly smooth, except the fingers, which are straight, slender, somewhat hairy, and not quite as long as the palmary portion of the hand. Fifth segment of the abdomen projecting into a sharp point at the posterior lateral angle. Sixth segment less than a third longer than broad; the lamellæ rather narrow and evenly rounded at the extremities. Terminal segment narrow and tapering to a triangular tip armed with small spines. Length of body from tip of rostrum to extremity of abdomen, 96<sup>mm</sup>; length of carapax from orbit to middle of posterior margin, 23.1; length of rostrum, 23.9. Another specimen gives: Length of body, 83<sup>mm</sup>; carapax, 18.7; rostrum, 20.0; second thoracic legs, 41.0; merus in second thoracic legs, 9.1; carpus, 12.1; hand, 10.5; dactylus, 4.8.

Polvon, Occidental Department of Nicaragua.

Both of the second thoracic legs are preserved in no one of the specimens, and those which are present seem very small and may have been reproduced. This species is very much like *P. Amazonicus* Heller, Sitzungsberichte der kaiser. Akad. der Wissenschaften, Wien, xlv, p. 418, pl. 2, fig. 45, 1862 (which is the same as *P. ensiculus* Smith, Trans. Conn. Acad., vol. ii, p. 26, pl. 1, fig. 2, 1869), but is at once distinguished from it by the terminal segment of the abdomen, which has a triangular and spinous tip, instead of terminating in a very slender and acute point; the sixth segment also is not nearly so narrow, and its lamellæ are not so long and slender.

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